Virtual patient teaches real-life mental health skills

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Credit: University of Leeds

Extended-reality assisted clinical training in perinatal mental health has been launched by Health Education England in collaboration with the University of Leeds.

Stacey is a virtual patient that health care learners can interact with using extended or virtual reality, allowing them to expand their skills in working with people with perinatal mental health problems.

Her responses are controlled by an instructor, providing an immersive simulated experience that allows learners to have realistic and natural conversations. Students can ask Stacey about her symptoms and make plans to get her the right support.

These scenarios represent the types of real-life conversations health professionals may have with perinatal mental health patients—but in Stacey's case, she is able to present to anyone who meets her in a standardized approach that enables the learner to reflect and debrief.

The technology has been designed to allow students to develop their skills in a safe environment until they are able to take their learnings into a real-life clinical setting. England is the first country in the world to launch clinical training in perinatal mental health using extended reality technology.

Developed by Health Education England in partnership with Fracture Reality, the training experience was evaluated by the University's Center for Immersive Technologies with more than 100 participants studying medicine, mental health nursing and clinical psychology.

Dr. Faisal Mushtaq, Director of the Center for Immersive Technologies, said, "The enormous potential for XR to accelerate learning has been clear for some time. But thus far, most examples in health care have been limited to areas involving 'technical skills.'"

"For example, we, and others, have shown how VR can be used to learn to perform surgical procedures.

"This project is significant because it demonstrates how these technologies can help people deal with difficult, emotionally challenging conversations that can arise in mental health consultations. This is a big step forward for using XR to support learning and skill acquisition."

Training opportunities

Perinatal mental health conditions affect 10%–20% of people giving birth in the U.K. While these problems are often mild and last for a short period, some can present as severe mental illness and without the right immediate support and care, can pose a high risk to parents and their babies.

Treatment for perinatal mental health conditions relies on health care professionals being able to engage and communicate effectively with patients to determine the severity of their condition and make appropriate interventions.

However, there are often limited opportunities for learners to practice these skills in a safe learning environment where they can practice and reflect on their experiences.

The research project has shown that this new immersive method of training is highly usable and useful for learners and educators. Some highlights include participants showing significant improvements in cognitive and emotional understanding after undertaking the simulation.

GPs in training reported a reduction in anxiety surrounding perinatal mental health consultations. Mental health nursing students had increased motivation and felt more prepared to pursue a career specializing in perinatal care.

Across all participants almost four out of five (79%) learners said they preferred this simulation training over traditional approaches.

Other universities will now be invited to trial the technology with their own students.

Enormous potential

The project has been supported by HEE's Technology Enhanced Learning team which has managed the relationships between subject matter experts and suppliers, and will enable access for NHS organizations to the XR technology required to deliver the training.

Rebecca Burgess-Dawson, National Clinical Lead for Mental Health at Health Education England, said, "Stacey provides students and learners with a wealth of scenarios that they may encounter while they are working in a clinical setting, all in a natural and realistic way.

"The potential impact that she has on perinatal mental health training is enormous and she will have a real benefit for learners in gaining the practice and skills they need for future patients they treat."

Mark Knowles-Lee, Chief Executive of Facture Reality, said, "We're excited to see the latest technology realized in such a meaningful way with our digital patients like Stacey.

"It's a great privilege to be at the center of this multidisciplinary team, coalescing cutting-edge design and development with world-class expertise in health care and training.

"We're proud to be breaking new ground, using our JoinXR platform and paving the way for further pedagogical innovation that keeps pace with the rapid technological advancements on the near-horizon."

Provided by University of Leeds